

# Resources to Replace On-Site Wastewater Treatment Systems in Texas

TWRI FACT SHEET  
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## Overview

Throughout Texas, there are a number of on-site wastewater treatment and distribution systems that are malfunctioning and ought to be replaced. Often, failing systems were designed and installed years ago. As a result, many of these systems do not conform to today's regulations and were built on small lots. Additionally, these older systems often utilized technologies that are not legal today (for example, cesspools and straight pipes that discharge into road ditches or lakes). Other problems that cause systems to fail include such environmental factors as clay soils, shallow groundwater tables, and areas with karst or fissured or fractured rocks that provide a direct path to groundwater. Conversely, in most cases, the majority of systems that have been properly designed and installed under current standards are thought to perform properly.

One factor that gets in the way of replacing failed systems is that local and regional governmental agencies, as well as individuals, are often not aware of the types of assistance that may be available to replace

failed on-site systems. This fact sheet provides an overview of resources that are available to provide funding and technical assistance.

Up front, a few disclaimers need to be made. First, the vast majority of these programs are intended to assist communities — not individuals. Second, this material is currently correct, but keep in mind that many agency programs change over time. Therefore, consult the agencies listed here individually for details about the assistance they currently offer. Finally, resources to replace failed on-site systems in Texas vary widely, depending on whether the county or community that needs aid is located near the Texas–Mexico border. Many programs are available to assist “colonias” (areas without adequate water or wastewater treatment) along the border, but may not be available in other regions of Texas. This fact sheet makes a distinction between statewide resources and those which specifically target colonias along the border region.

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## Resources to Assist Texas Communities

### Texas Water Development Board (TWDB)

The TWDB provides a variety of resources to help plan and finance the replacement of failed on-site wastewater treatment systems. TWDB has programs that are available to all parts of Texas, as well as those intended primarily to address needs of border regions. Eligible applicants can benefit by taking part in the



Photo Courtesy of Bruce Lesikar/ TAMU

*Many government programs can provide assistance to Texas towns.*

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Note: This fact sheet was produced by Ric Jensen of the Texas Water Resources Institute (TWRI). The Institute is a unit of the Texas Agricultural Experiment Station and is located on the Texas A&M University campus in College Station, Texas. Jensen can be contacted at (979) 845-8571 or [rjensen@twri.tamu.edu](mailto:rjensen@twri.tamu.edu). Funding for this fact sheet was provided by the Texas On-Site Wastewater Treatment Research Council (TOWTRC). The Council is funded by a small fee that is paid whenever an on-site wastewater treatment system is installed in Texas. The Council uses these funds to support research, training, and public education. To learn more about TOWTRC, contact Executive Secretary Warren Samuelson at (512) 239-4799, or visit the Council on the WWW at <http://towtrc.tamu.edu>.

Board's programs, since the interest rates for loans are often significantly less than they would be if financing were obtained from the private sector.

A major function of TWDB is to provide loans to local governments for wastewater treatment and water supply projects. TWDB also offers grants and loans to help solve the water and wastewater needs of economically distressed regions of Texas.

The TWDB administers the Clean Water State Revolving Fund, which provides loans at low-cost interest rates to political subdivisions that have the authority to own and operate wastewater treatment systems.

TWDB manages the Texas Water Development Fund II, which can be used for the planning, design, and construction of water and wastewater projects. Political subdivisions and non-profit water supply corporations are eligible for low-interest loans from this program, which is funded by state bonds.

The Board administers the Economically Distressed Areas Program (EDAP), which provides loans and grants to plan and construct water and wastewater systems in targeted counties with low incomes and high unemployment rates. As of September 2000, 48 counties throughout Texas were eligible for this program. Both grant and loan funds are available. Recognized political subdivisions (for example, cities, counties, water districts, and non-profit water supply corporations) may take part in this program.

## Texas Natural Resource Conservation Commission (TNRCC)

The TNRCC Water Utilities Division provides assistance and information to small communities throughout the State that are considering improvements to water and wastewater systems. TNRCC staff work with these communities to see that authorizations are obtained and that regulations are being followed.

The TNRCC administers the Supplemental Environmental Program (SEP). SEP allows industries which have been fined by the TNRCC for pollution or other regulatory violations to redirect a portion of the amount of these penalties to solve environmental problems, including failing on-site wastewater systems. Typically, these funds are directed to the

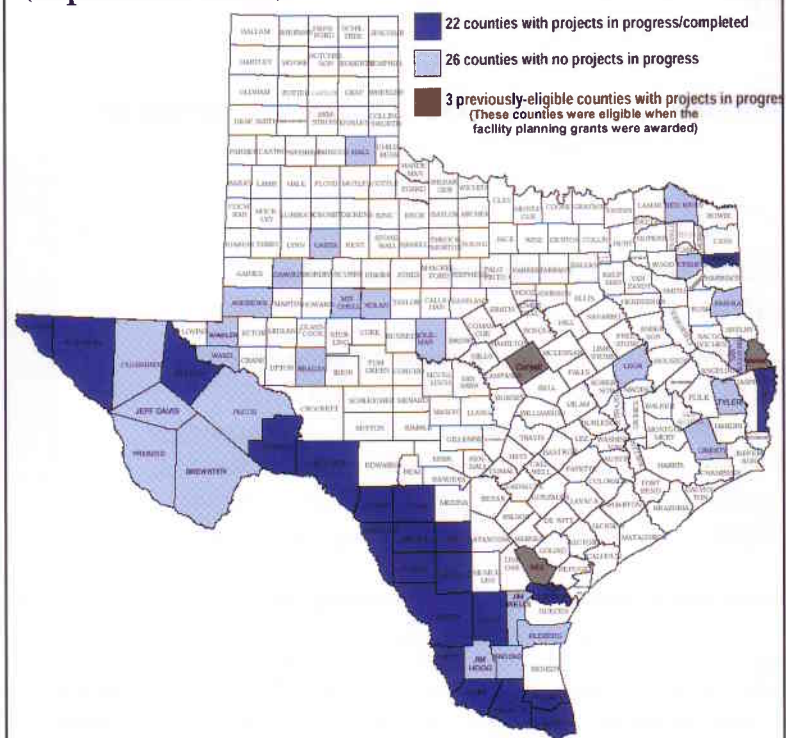
counties or regions where the incidents that led to the fines occurred.

SEP funds have been used to fund the replacement of failed septic tanks and drainfields in many areas of Texas. The availability of funds for this program may be limited and is dependent on the amount of fines generated in a region.

## Texas Department of Housing and Community Affairs (TDHCA)

The U.S. Department of Housing and Urban Development (HUD) provides funding through block grant programs to "entitlement" and "non-entitlement" communities. Entitlement communities are larger urban and metropolitan areas with populations of more than 50,000 for cities and greater than 200,000 for counties. Entitlement communities receive community development block grants. The TDHCA Community Development Program (CDP) administers funds provided by HUD for the non-entitlement areas of Texas. Eligible applicants for CDP funds are non-entitlement "units of local government" and incorporated cities and counties that are not participating or designated as eligible to participate in the entitlement program. Non-entitlement cities that are not participating in urban county programs are also eligible.

### Counties Eligible for the EDAP Program (September 2000)



GRAPHIC COURTESY OF TEXAS WATER DEVELOPMENT BOARD

The block grant program is intended to provide decent housing and suitable living environments. In Texas, block grants have often been used to plan and construct water and wastewater facilities. In some cases, block grants have been utilized to replace failed on-site wastewater treatment systems.

### **Texas General Land Office (GLO)**

The GLO assists local communities located along the Texas coast in evaluating the condition of on-site wastewater treatment systems that may have been damaged by hurricanes or tropical storms. GLO staff can consult communities and individuals about how on-site systems affected by these storms may need to be repaired, or whether these systems may have to be abandoned. The agency also provides comments on beachfront construction permits, which often include on-site wastewater treatment systems.

### **Texas Department of Economic Development (TDED)**

TDED administers the Texas Capital Fund (TCF) Main Street Improvement Program. Grants from this program can be used to finance such public improvements as water and wastewater facilities. Eligible projects must help eliminate slums or blighted areas. Only officially designated Texas Main Street Cities can apply for these grants. The TCF can also be used to finance infrastructure developments and improvements.

### **Texas Parks and Wildlife Department (TPWD)**

TPWD can provide funding and technical assistance to aid in the development and repair of water and wastewater systems in open spaces and recreational areas through its Texas Recreation and Parks Account Program. Political subdivisions are eligible to apply to TPWD for loans and grants that may be available for this program.

TPWD manages water and wastewater systems associated with state parks in Texas. TPWD programs can be used to repair and replace on-site wastewater systems within state parks, open spaces, and recreational areas managed by the Department

### **The Small Towns Environmental Program (STEP)**

STEP is organized around the principle that communities can help solve water and wastewater problems by utilizing the capacity and resources of local volunteers. By taking advantage of all the resources in a community (including people, materials, and financing), it is often possible to design and construct wastewater treatment and distribution systems at a relatively low cost. Several STEP projects have involved replacing failed on-site wastewater treatment systems.

STEP was originally developed by The Rensselaerville Institute (TRI), a non-profit organization in New York state, in collaboration with the U.S. Environmental Protection Agency (EPA) and the Ford Foundation. In Texas, the TRI South Regional Office worked with TDHCA, TNRCC, TWDB, and GLO to create Texas STEP, which is a network of agencies that provides equipment, expertise, and technical assistance to communities that want to use this approach.

Funding for Texas STEP projects is available through the TWDB and the TDHCA CDP program.

### **U.S. Department of Agriculture (USDA) Rural Development**

USDA Rural Development provides financial assistance to improve water and wastewater treatment. The USDA Rural Utilities Service (RUS) provides loans and grants for new water and wastewater projects as well as for expansion of existing systems. Loans and grants are available for towns and rural areas with less than 10,000 residents.

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## **Resources to Assist Communities along the Texas–Mexico Border**

### **TWDB**

The Texas Water Development Board (TWDB) Economically Distressed Areas Program (EDAP) provides financial assistance to political subdivisions to plan, design, and for the construction, acquisition or improvement of water supply and sewer services in targeted counties with low incomes and high unem-

ployment rates. As of September 2000, 48 counties located throughout Texas were eligible for this program. Both grant and loan funds are available. Recognized political subdivisions (for example, cities, counties, water districts, and non-profit water supply corporations) may take part in this program.





Photo Courtesy of Bruce Lesikar/ TAMU

*Loan and grant programs are available to assist the Texas–Mexico border region.*

The TWDB Colonia Plumbing Loan Program (CPLP) provides low-interest loans to assist low- and moderate-income colonia residents with financing connections to water and wastewater systems. It can also be used to install plumbing improvements. Local political subdivisions must apply for these funds. These agencies can then make low-interest loans to people who qualify for these programs.

Recently, the TWDB worked with the U. S. Environmental Protection Agency (EPA) to obtain the authority to use the Colonia Wastewater Treatment Assistance Program funds to assist with residential connections and hook-up fees to wastewater systems.

## TDHCA

The TDHCA Texas Community Development Program (TCDP) provides funding to the border areas. The TCDP's Colonia EDAP fund (CEDAP) was created to compliment the TWDB's EDAP fund. The CEDAP fund provides the financial support for hook-ups, plumbing improvements, tap fees, and connections from the main lines to the individual household. To qualify for assistance from this fund, a county must have a current TWDB Construction fund Award, must have begun Construction and must meet the TCDP definition of a Colonia

"A colonia is defined as: any identifiable unincorporated community that lacks a potable water supply, adequate sewage systems, and decent, safe and sanitary housing; was in existence as a colonia prior to November 28, 1990 and is within 150 miles of the Texas/Mexico border."

For water and wastewater assistance TCDP also has available:

- the Colonia Construction fund, awarded annually;
- the Colonia Comprehensive Planning fund, which is dedicated to general assessments and profiles of a county's colonia areas which can include platting;
- the Colonia Planning fund, which can be used for

planning studies and platting.

Other funding available through the TCDP include the Community Development fund which can be utilized for water and wastewater construction; the Texas STEP fund, which is a self-help approach to solving water and sewer needs; and the TCDP Planning fund which can be utilized for planning studies.

## The Texas Secretary of State's Office (SOS)

The SOS Office has developed "The Texas Plan", which is a program to fund as many as 180,000 individual connections to water and wastewater service in Texas colonias. The plan targets projects within TWDB EDAP areas and covers 13 border counties. To implement the plan, SOS coordinates the efforts of many regulatory and funding agencies that may be able to assist in the development of water and wastewater infrastructure along the border. SOS field staff are in place at six colonias, which provide technical assistance related to water and wastewater issues.

## USDA Rural Development Colonia Program

USDA RUS administers the Water and Waste Disposal Colonia Grants program. Grants awarded through this program can be used to construct, enlarge, extend, and improve water and waste disposal systems in colonias. To be eligible, an area must have been recognized as a colonia before 1989, and must be in a county designated to receive colonia assistance.

## The Border XXI Program

The Border XXI Program is a joint effort of the governments of the United States and Mexico. The Program identifies projects related to water and wastewater treatment and distribution that are needed along the United States–Mexico border. Once projects have been identified, Program staff work with other agencies to develop ways to design and finance water, wastewater, and other infrastructure-related facilities. The Program develops an implementation plan that recommends the financing and development of specific water and wastewater projects.

The elimination of water pollution, addressing deficiencies in wastewater treatment, and working to correct problems associated with inadequate treatment of domestic wastewater are among the priorities of the Border XXI Program.

## North American Development Bank (NADB)

The North American Development Bank (NADB) was created by the governments of the United States and Mexico through the North American Free Trade Agreement (NAFTA). The NADB was established to address challenges related to water supplies, wastewater treatment, and municipal solid waste.

The primary role of NADB is to facilitate financing for the development, execution, and operation of projects certified by the Border Environmental Cooperation Commission (BECC). NADB provides guidance to communities regarding long-term environmental planning, works as an investment banker and adviser to finance these projects, and serves as a lender or guarantor, providing loans that are not typically covered by other sources.

The NADB Institutional Development Cooperation Program and the Border Environment Infrastruc-

ture Fund may be sources to finance wastewater systems for border communities.

## The Border Environment Cooperation Commission (BECC)

The BECC is based in Juarez, Mexico. This binational organization was created by the governments of the United States and Mexico to assist in developing environmental-related infrastructure along the border between the two nations. The Commission finances and certifies environmental infrastructure projects, including water and wastewater treatment and distribution systems. Projects that are approved by the Commission can be considered for funding from the North American Development Bank. BECC staff can assist border communities in planning and designing water and wastewater projects, as well as facilities for municipal solid waste and related areas.

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## Resources to Assist Individual Homeowners

### TWDB

The TWDB Colonia Plumbing Loan Program provides low-interest loans to assist low- and moderate-income colonia residents with connections to water and wastewater systems. It can be used to install plumbing improvements. Local political subdivisions (cities, counties, water districts, and non-profit water supply corporations) must apply for these funds. These agencies can make low-interest loans to people who qualify for these programs. Recently, TWDB worked with the U.S. Environmental Protection Agency (EPA) to obtain the authority to use grant funds through the Colonia Wastewater Treatment Assistance Program to fund residential connections to wastewater systems.

### USDA Rural Development

USDA Rural Development provides grants that can be used to provide service lines, connections, and the installation of plumbing and related fixtures through Water and Waste Disposal Grants. Assistance is limited, and applicants must live in counties designated by USDA as eligible for this program. The USDA Section 504 Program provides loans for very low-income homeowners to repair their homes, including on-site wastewater treatment and disposal systems. The maximum amount of loans through this program is \$20,000, while grants are limited to roughly \$7,500.

### GLO

The Texas General Land Office (GLO) can assist individuals along the Texas coast in evaluating the condition of on-site wastewater treatment systems that may have been damaged by tropical storms or hurricanes. GLO staff consult people about how on-site systems affected by these storms may need to be repaired, or whether these systems may have to be abandoned. The agency provides comments on beach-front construction permits, which often include on-site wastewater treatment systems for individual residences.



Photo Courtesy of Bruce Lesikar/ TAMU

*Some forms of assistance are available to replace individual on-site wastewater treatment systems.*



## Information and Education Resources

### The City of Austin Alternative Wastewater Management Program

The City of Austin's Alternative Wastewater Management Program has developed education and information resources about on-site wastewater treatment technologies. The Program has created fact sheets about several pretreatment options, including the use of septic tanks, composting toilets, aerated tanks, intermittent sand filters, subsurface wetlands, and many others. Fact sheets have been published about many disposal options, including absorption beds and trenches, evapotranspiration beds, leaching chambers, low-pressure dosing, drip irrigation, spray irrigation, and mounds. The Program has also developed a video and a companion brochure, both titled "Decentralized Wastewater Management," which are available to the public. The City has conducted research and monitoring of selected technologies, and has demonstrations of on-site wastewater treatment technologies in place in the Austin area. The City offers grants to repair or replace on-site wastewater treatment systems in the Austin area, through the Office of Neighborhood Housing and Community Development and the Austin Housing Finance Corporation.

### Consortium of Institutes for Decentralized Wastewater Treatment

The Consortium of Institutes for Decentralized Wastewater Treatment is a coalition of universities in the United States and Canada that is working to develop education and training programs about on-site and decentralized wastewater treatment. Resources available from the Consortium include education and training materials. The Consortium cooperates with

federal and state agencies, as well as the private sector, to create opportunities for education, training, and research.

### National Small Flows Clearinghouse (NSFC)

The NSFC, located at the West Virginia University (WVU), provides resources about on-site wastewater treatment systems. Services provided by NSFC include technical reports, searchable databases, technical assistance, and free journals, magazines, and newsletters. NSFC coordinates opportunities for research, education and training. Many NSFC products describe issues related to the financing, economics, design, performance, and maintenance of on-site wastewater treatment systems. NSFC regularly participates with two other organizations at WVU that assist in on-site wastewater research, education, and training — the National Environmental Training Center for Small Communities, and the National Onsite Demonstration Program.

### The National Decentralized Water Resources Capacity Development Project (NDCP)

The NDCP is funded by the EPA. The Project identifies and funds research and education projects related to decentralized wastewater treatment systems. Some of the current activities of the Project include developing a curriculum about decentralized wastewater treatment that can be used in colleges and universities, and creating continuing education materials for professionals in the field. Another NDCP-funded project will create a guidance document on alternative decentralized wastewater treatment systems to support more compact, sustainable, land use patterns. The Project supports training, research, and development projects, as well as technical outreach activities.

### National Environmental Health Association (NEHA)

NEHA supports education and training related to on-site wastewater treatment. NEHA publishes a journal that regularly features articles about on-site wastewater treatment. Themes related to on-site wastewater treatment are regularly featured at NEHA conferences. NEHA works with a statewide affiliate, the Texas Environmental Health Association, to



Photo by Ric Jensen/ TWRI

*Training centers in El Paso, Weslaco, and Bryan were developed jointly by the TOWTRC, TAEX, and TOWA.*

increase awareness of issues related to onsite wastewater treatment.

### **National Onsite Wastewater Recycling Association (NOWRA)**

NOWRA is an association which serves the manufacturers and installers of on-site wastewater treatment systems, as well as regulators, agencies, and the general public. NOWRA sponsors conferences and continuing education classes, and provides educational materials about on-site wastewater treatment systems.

### **Texas Agricultural Extension Service (TAEX)**

TAEX is part of the Texas A&M University System and is headquartered in College Station, Texas. Recently, TAEX has carried out many research and demonstration projects to evaluate the site-specific performance of on-site wastewater treatment systems. TAEX worked with the Texas On-Site Wastewater Treatment Research Council (TOWTRC) to develop regional centers for on-site wastewater training in Bryan, Weslaco, and El Paso. They also cooperated with the Council to produce several fact sheets that describe various on-site wastewater treatment technologies. Some fact sheets discuss such management issues as how to select and permit on-site wastewater treatment systems and how individuals should operate and maintain these systems. Other fact sheets focus on such technologies as conventional septic tanks and drain-fields, alternative collection systems, aerobic treatment units, constructed wetlands, leaching chambers, and many others. Several of these fact sheets have also been printed in Spanish. TAEX offers continuing education classes about these systems.

### **Texas Engineering Extension Service (TEEX)**

TEEX provides classes for individuals who want to become certified to work in the on-site wastewater field in Texas, as well as continuing education programs. Courses cover such topics as system design and installation, site evaluation, the duties of designated representatives, and the maintenance of aerobic systems. Classes are taught at Council-funded training centers as well as other locations throughout Texas.

### **Texas Onsite Wastewater Association (TOWA)**

TOWA is an organization that is dedicated to improving the professionalism of the on-site wastewater industry in Texas. TOWA provides continuing education and training through in-depth short courses and workshops about specific topics. They also publish newsletters and fact sheets.

### **Texas On-Site Wastewater Treatment Research Council (TOWTRC)**

TOWTRC is funded by a fee that is paid whenever a new on-site wastewater treatment system is installed in Texas. Funds generated through this program are managed by the Council and used to fund research, training, education, and publication programs. The Council's research program is open to public agencies, units of local and regional government, and universities. Although Council research funds cannot be used to design or build on-site systems, they can be utilized to investigate regional or local issues that affect the ability of these systems to function properly.

Information resources available from the Council include training centers located in Bryan, El Paso, and Weslaco; annual conferences; and publication of conference proceedings.

### **Texas Water Resources Institute (TWRI)**

TWRI works closely with TOWTRC in education and communications efforts. TWRI publishes a quarterly newsletter that discusses on-site wastewater treatment systems, *Texas On-Site Insights*. Recently, TWRI began publishing the newsletter in Spanish under the title, *Sistemas Individuales Para el Tratamiento de Aguas Residuales*. The Institute created and maintains the TOWTRC World Wide Web site, and facilitates timely communications about on-site wastewater treatment through its "SepticTalk" e-mail list server. Other information available from TWRI includes a variety of publications that discuss university contributions to water and wastewater issues.

## Key Contacts for Additional Information

- **Border Environmental Cooperation Commission**  
<http://www.cocef.org/>  
Phone: (011-52-16) 25-91-60
- **City of Austin Alternative Wastewater Management Program**  
<http://www.ci.austin.tx.us/wri/altern.htm>  
Phone: (512) 332-2894
- **Consortium of Institutes for Decentralized Wastewater Treatment**  
<http://www.dal.ca/~cwrs/cdwt/index.html>
- **National Decentralized Water Resources Capacity Development Project (NDCP)**  
Phone: (510) 658-2686
- **National Environmental Health Association**  
<http://www.neha.org>  
Phone: (303) 756-9090  
Fax: (303) 691-9490
- **National Onsite Wastewater Recycling Association**  
<http://www.nowra.org>  
Phone: (301) 776-7468  
Fax: (301) 776-7409
- **National Small Flows Clearinghouse**  
<http://www.nsfcc.wvu.edu>  
Phone: (800) 624-8301  
Fax: (304) 293-3161
- **North American Development Bank**  
<http://www.nadb.org>  
Phone: (210) 231-8000  
Fax: (210) 231-6232
- **Texas Agricultural Extension Service**  
<http://ossf.tamu.edu>  
Phone: (979) 845-7453  
Fax: (979) 862-3442
- **Texas Department of Economic Development**  
<http://www.tded.state.tx.us>  
Phone: (512) 936.0101  
Fax: (512) 936.0440
- **Texas Department of Housing and Community Affairs**  
<http://www.tdhca.state.tx.us>  
Phone: (512) 475-3800  
Fax: (512) 475-3914
- **STEP Program – Texas Department of Housing and Community Affairs**  
<http://www.tdhca.state.tx.us>  
Phone: (512) 475-3925
- **Texas Engineering Extension Service**  
<http://teexweb.tamu.edu>  
Phone: (800) 824-7303  
Fax: (979) 458-6771
- **Texas General Land Office**  
<http://www.glo.state.tx.us>  
Phone: (800) 998-4GLO  
Fax: (512) 475-1415
- **Texas Natural Resource Conservation Commission (OSSF Program)**  
<http://www.tnrcc.state.tx.us/enforcement/csd/ics/index.html#sewage>  
Phone: (512) 239-4799  
Fax: (512) 239-6390
- **Texas Water Resources Institute**  
<http://twri.tamu.edu>  
Phone: (979) 845-1851  
Fax: (979) 845-8554
- **Texas On-Site Wastewater Treatment Research Council**  
<http://towtrc.tamu.edu>  
Phone: (512) 239-4799  
Fax: (512) 239-6390
- **Texas Onsite Wastewater Association**  
<http://www.txowa.org>  
Phone: (512) 494-1125  
Fax: (512) 494-1129
- **Texas Parks and Wildlife Department**  
<http://www.tpwd.state.tx.us>  
Phone: (512) 389-4800  
Fax: (512) 389-4450
- **Texas Secretary of State's Office**  
<http://www.sos.state.tx.us>  
Phone: (512) 463-8948  
Fax: (512) 475-2761
- **Texas Water Development Board**  
<http://www.twdb.state.tx.us>  
Phone: (512) 463-7847  
Fax: (512) 475-2053
- **The Rensselaerville Institute Southern Region Office**  
<http://www.trisouth.org>  
Phone: (512) 476-4920  
Fax: (800) 682 4203
- **U.S. Department of Agriculture Rural Development Program (Texas Office)**  
<http://www.rurdev.usda.gov/site.html>  
Phone: (254) 742-9700  
Fax: (254) 742-9709
- **U.S. Environmental Protection Agency Region 6 Office**  
<http://www.epa.gov/earth1r6/index.htm>  
Phone: (214) 665-2100  
Fax: (214) 665-7373
- **U.S. EPA Border XXI Program**  
<http://www.epa.gov/usmexicoborder/ef.htm>  
Phone: (800) 334-0741  
Fax: (214) 665-7373